

We claim:

- 1           1.     A probe for use with an outer member having a wall defining an  
2 interior bore, the probe comprising:  
3                 an elongate body, defining a distal region, a distal end and a  
4 proximal region, adapted to be carried within the outer member interior bore;  
5                 an inflatable tissue coagulation body supported on the elongate  
6 body distal region; and  
7                 a control element defining a distal portion associated with the distal  
8 end of the elongate body and a proximal portion extending along the exterior of  
9 the elongate body toward the proximal region of the elongate body.
- 1           2.     A probe as claimed in claim 1, wherein the elongate body  
2 comprises a catheter body.
- 1           3.     A probe as claimed in claim 1, wherein at least the distal region of  
2 the elongate body includes a flexible spline.
- 1           4.     A probe as claimed in claim 3, wherein the flexible spline includes a  
2 hinge portion.
- 1           5.     A probe as claimed in claim 4, wherein the inflatable tissue  
2 coagulation body is proximal to the hinge portion.
- 1           6.     A probe as claimed in claim 4, further comprising:  
2                 at least one sensing element;  
3                 wherein the inflatable tissue coagulation body is located one of  
4 distal to and proximal to the hinge portion and the at least one sensing element  
5 is located the other of distal to and proximal to the hinge portion.
- 1           7.     A probe as claimed in claim 1, wherein the inflatable tissue  
2 coagulation body comprises a half-balloon structure.

1           8.    A probe as claimed in claim 1, wherein the inflatable tissue  
2 coagulation body includes micropores.

1           9.    A probe as claimed in claim 1, wherein the inflatable tissue  
2 coagulation body comprises a heated structure.

1           10.   A probe as claimed in claim 1, wherein the control element  
2 comprises a pull wire.

1           11.   A probe, comprising:  
2                an outer member defining a distal end and including a wall defining  
3 an interior bore;  
4                an elongate body carried within the outer member interior bore and  
5 defining a distal region and a distal end operably connected to the distal end of  
6 the outer member; and  
7                an inflatable tissue coagulation body supported on the elongate  
8 body distal region.

1           12.   A probe as claimed in claim 11, wherein the wherein the elongate  
2 body comprises a catheter body and the outer member comprises a sheath.

1           13.   A probe as claimed in claim 11, wherein at least the distal region of  
2 the elongate body includes a flexible spline.

1           14.   A probe as claimed in claim 13, wherein the flexible spline includes  
2 a hinge portion.

1           15.   A probe as claimed in claim 14, wherein the inflatable tissue  
2 coagulation body is proximal to the hinge portion.

1           16.   A probe as claimed in claim 14, further comprising:  
2                at least one sensing element;

3                    wherein the inflatable tissue coagulation body is located one of  
4                    distal to and proximal to the hinge portion and the at least one sensing element  
5                    is located the other of distal to and proximal to the hinge portion.

1                    17. A probe as claimed in claim 11, wherein the inflatable tissue  
2                    coagulation body comprises a half-balloon structure.

1                    18. A probe as claimed in claim 11, wherein the inflatable tissue  
2                    coagulation body includes micropores.

1                    19. A probe as claimed in claim 11, wherein the inflatable tissue  
2                    coagulation body comprises a heated structure.

1                    20. A probe as claimed in claim 11, wherein the outer member defines  
2                    a distal region and the distal region of the outer member includes a slot.

1                    21. A probe for use with an outer member including a wall defining an  
2                    interior bore, the probe comprising:  
3                    a tissue coagulation body; and  
4                    an elongate body, defining a distal region that supports the tissue  
5                    coagulation body, adapted to be carried within the outer member interior bore  
6                    and extend outwardly from the interior bore such that the distal region forms a  
7                    loop, the elongate body including a hinge portion defining the apex of the loop  
8                    formed by distal region, the hinge portion having a flexibility that allows the apex  
9                    of the loop to be inserted into a pulmonary vein to such an extent that the tissue  
10                    coagulation body will be substantially aligned with the pulmonary vein ostium.

1                    22. A probe as claimed in claim 21, wherein the elongate body defines  
2                    a distal end and a proximal region, the probe further comprising:

3                    a control element defining a distal portion associated with the distal  
4                    end of the elongate body and a proximal portion extending along the exterior of  
5                    the elongate body toward the proximal region of the elongate body.

1           23. A probe as claimed in claim 21, wherein the loop defines a length  
2 and a height and the flexibility of the hinge portion is such that the loop length  
3 will be at least two times the loop height.

1           24. A probe as claimed in claim 21, wherein the elongate body  
2 comprises a catheter body.

1           25. A probe as claimed in claim 21, wherein at least the distal region of  
2 the elongate body includes a flexible spline and the hinge portion is formed in the  
3 flexible spline.

1           26. A probe as claimed in claim 21, further comprising:  
2 at least one sensing element;  
3 wherein the tissue coagulation body is located on one side of the  
4 hinge portion and the at least one sensing element is located the other side of  
5 the hinge portion.

1           27. A probe as claimed in claim 21, wherein the tissue coagulation  
2 body comprises an inflatable tissue coagulation body.

1           28. A probe as claimed in claim 27, wherein the inflatable tissue  
2 coagulation body comprises a half-balloon structure.

1           29. A probe as claimed in claim 27, wherein the inflatable tissue  
2 coagulation body includes micropores.

1           30. A probe as claimed in claim 27, wherein the inflatable tissue  
2 coagulation body comprises a heated structure.

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31. A method of forming a lesion in tissue associated with a body orifice, comprising the steps of:

deploying a probe, including an elongate body having a distal portion and a tissue coagulation body supported on the distal portion, to a region adjacent to the body orifice;

forming a loop defining an apex with the distal portion of the elongate body;

inserting the apex of the loop into the orifice;

contacting a portion of the tissue associated with the orifice with the tissue coagulation body while the loop is located at least partially within the orifice; and

forming a lesion in the portion of the tissue associated with the orifice with the tissue coagulation body.

32. A method as claimed in claim 31, further comprising the steps of:

adjusting at least one of the loop and the tissue coagulation body such that the tissue coagulation body is taken out of contact with the portion of the tissue associated with the orifice;

rotating the loop relative to the orifice;

contacting a second portion of the tissue associated with the orifice with the tissue coagulation body while the loop is located at least partially within the orifice; and

forming a lesion in the second portion of the tissue associated with the orifice with the tissue coagulation body.

33. A method as claimed in claim 31, wherein the step of deploying a probe comprises deploying a probe including an inflatable tissue coagulation body and the step of contacting the tissue comprises inflating the tissue coagulation body.

1           34. A method as claimed in claim 31, wherein the step of deploying a  
2 probe comprises deploying a probe including a pull wire through an outer member  
3 and the step of forming a loop comprises urging the elongate body through the  
4 outer member while applying tension to the pull wire.

1           35. A method as claimed in claim 31, wherein the step of contacting a  
2 portion of the tissue comprises engaging tissue with respective portions of the  
3 loop located on opposite sides of the apex.

1           36. A method as claimed in claim 31, wherein the step of forming a  
2 lesion comprises transmitting energy to the tissue.